

WHAT IS CLAIMED IS:

1. A process for depositing a film coating on the exposed surface of a substrate, characterized by the steps of: (a) creating a glow discharge in a region between an electrode and a counterelectrode; and (b) flowing a mixture comprising a balance gas, a tetraalkylorthosilicate and, optionally, a carrier gas for the tetraalkylorthosilicate through the glow discharge and onto or in the vicinity of at least one surface of said substrate at a flow velocity of from about 0.05 m/s to about 5 m/s, the concentration of the tetraalkylorthosilicate in the mixture being in the range of from more than 2000 ppm to about 10000 ppm to form a film coating on the substrate.
2. The process of Claim 1 wherein the electrode is a perforated electrode comprising perforations through and the mixture of a balance gas and a tetraalkylorthosilicate and, optionally, a carrier gas for the tetraalkylorthosilicate is flowed through the perforations.
3. The process of Claim 2 wherein the process is continuous and the counterelectrode supports a moving substrate.
4. The process of Claim 3 wherein the counterelectrode is covered with a dielectric sleeve.
5. The process of Claim 2 wherein the tetraalkylorthosilicate is tetraethylorthosilicate.
6. The process of Claim 2 wherein the balance gas is air, oxygen, nitrogen, helium, argon, or a combination thereof.
7. The process of Claim 5 wherein the pressure of the glow discharge region is maintained at about atmospheric pressure and the concentration of the tetraethylorthosilicate is more than 3500 ppm.
8. The process of Claim 7 wherein the flow velocity of the balance gas, the tetraethylorthosilicate, and the carrier gas through the perforations is in the range of from about 0.1 m/s to about 2 m/s.

9. The process of Claim 7 wherein the coating has an optical clarity of at least 98 percent and a haze value of not greater than 2 percent.
10. The process of Claim 1 wherein the film coating is a clear film coating.
11. The process of Claim 1 wherein the film coating has a surface energy of more than 50 dynes/cm.

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